Dr. H. Douglas Dahl Presented Fall 2006 Poundstone Lecture

On November 16th, Dr. H. Douglas Dahl presented the fall Poundstone Lecture to a room filled with students, professors, alumni and friends. In his provocative style, Doug titled his lecture: “Let’s Kill the Bureaucracy and Save Our Miners.” He started his comments at the national level by explaining that it is a travesty that this country does not have a working energy policy that will take the nation where it needs to go. He believes that, in the long term, nuclear energy should be used for generating electricity and that coal should be saved for producing easily transportable liquids for vehicles and home heating. This approach would minimize the country’s dependence on foreign energy sources and help minimize greenhouse gases (although he is very skeptical about the certainty of global warming based on models that cannot even predict present conditions let alone the future). Unfortunately, Doug believes that his energy policy suggestion is so simple and straightforward, that it probably will not be accepted.

In regard to the coal mining industry, Dr. Dahl states that several factors have brought the mining industry to where it is today. Management is changing. Many companies are going public and there is pressure for the short term stock performance. Many of these public coal companies are managed by business professionals and not technical people as in the past. Labor is changing. The UMWA used to dominate the landscape and keep an iron hold on the coal industry. Now, the UMWA does not control any large sector of the coal industry. The coal market is changing. The power industry used to be mostly concerned with the BTU of the coal, but now the sulfur content is more critical. There used to be many captive mines, but there are few now. There is little concern for supply from the power industry.

(See Dahl, Page 2)
coal is treated as a commodity. Mining technology is changing. Roof support has greatly improved, longwall mining has become the dominant underground extraction system over continuous miners, draglines have replaced shovels, and belt haulage has replaced rail. Mining regulations have changed. In 1920, the Empire State Building was built in a year. Now it takes eight years to permit a mine. The one constant in the industry is the miners. They are hard-working and loyal to their company, the coal industry and their fellow employees.

In regard to improving mine safety, Doug states that there are a number of stipulations, or premises that must be considered:

1) The public has a responsibility to take reasonable steps to protect miners.
2) MSHA and WV OMHS&T provide a valuable service to our industry, but we are not utilizing these agencies to our best capability.
3) Neither agency has primary responsibility; the mines have to satisfy both.
4) Organizational efficiency is eroded when more than one entity is given total responsibility.
5) Once society has formed an entity, it is near impossible to eliminate it.

To address these stipulations, Dr. Dahl believes that restructuring the West Virginia Office of Miners’ Health Safety and Training (WV OMHS&T) would be the best approach. MSHA has much greater resources, and the state agency is more prone to political sway (a significant impediment to efficiency). To optimize miner’s safety and capitalize on the strength of the two agencies, Doug believes that the state OMHS&T should get out of enforcement and leave it to MSHA, and then concentrate on training and certification.

The audience packed the auditorium to listen to Dr. Dahl presenting the Poundstone Lecture.

employees or $400/yr/miner (and OSHA spends less than $3/year/worker). Federal regulations are more explicit and detailed, and have significant criminal laws. State regulations are more general and allow a lot of discretion, but are administered by low paid state workers. MSHA has much greater resources, and the state agency is more prone to political sway (a significant impediment to efficiency). To optimize miner’s safety and capitalize on the strength of the two agencies, Doug believes that the state OMHS&T should get out of enforcement and leave it to MSHA, and then concentrate on training and certification.

The Department Visiting Committee Met

The Department Visiting Committee met on November 22, 2006. Among the issues discussed were freshman/high school recruiting, alumni assistant recruiting, computer laboratories support, and additional space needs. The Committee reviewed the progress of freshman/high school recruiting programs, and explored the College computer support and the need for more space and equipment for teaching and mine design computer laboratories.

Alumni News

• Richard W. Lee (BSEM ’47) retired. He fractured his hip in Sept. ’05, now walking carefully with a cane.
• Joseph V. Tassone (BSEM ’51) retired from Dayco Products, Inc. in ’96, having served as VP and General Council. Self-employed & working part-time for Dayco as attorney and Asst. Secretary, Intellectual Property.
• David Eyer (MSEM ‘62) is enjoying an active retirement as a volunteer in the performing arts & mining-related consulting work.
• Steven Jeb Turner (BSEM ’79) 22 years with Pittston Coal, over 4 years at Cumberland Resources as General Supt., installing & operating underground mines. Enjoying coaching his 2 daughters, 9 & 11 yrs., in basketball, softball, & soccer.
• Joseph Ferrell (BSEM ’81) VP & GM of O-N Minerals, Inc. Married to Candace Hamlyn Ferrell (’81), 3 children, Rebecca, Rachel, & Joseph III. Rebecca is another proud Mountaineer!
• Charles J. Cira (BSEM ’84) established Cira & Associates Consulting, LLC in ’04. Serves as Director of Op. for this environmental consulting & contracting co. located in Morgantown, WV.
• Robert Edward Murray (BSEM ’98) November 2005 appointed GM of the Ohio Valley Coal Co. Received his MBA from Ohio State University in June 2006. He and wife Kelli have 2 children, Julia & Colin.
• Nancy L. Dorset (BSMinE ’01, MSMinE ’03) hired by Penn State Fayette in Jan. ’06 to start the A.S. in mining technology program. This program is a working partnership with Consol, DBT America, Foundation Coal Corp. & Peabody.

Richelle and Joe Zirkle (BSMinE ‘04) at their wedding ceremony on October 14, 2006, PA.

Attending the 2006 Fall Visiting Committee Meeting were (left to right): Michael Peelish, Foundation Coal; Ronald Stovash, CONSOL Energy; John Murphy (Chair), University of Pittsburgh; Marshall Miller, Marshall Miller and Associates; Jeff Kelley, ICG Tygart Valley; Chuck Dunbar, International Coal Group, Mining Services; Jim Laurita, Mepco Inc.; Chris Bise, Chair, Mining Engineering Department; WVU; and Stanley Suboleski, Federal Health & Safety Review Commission.
Dr. Christopher Bise, New Chair of Mining Engineering Department

Dr. Christopher Bise, a Philadelphia native, received his Bachelor’s in Mining Engineering from Virginia Tech. Upon graduating from Virginia Tech, Bise went to work for Consolidation Coal Company in eastern Ohio. He says, “I started as an engineer trainee at what was then the Hanna Coal Company Division of Consol.” Some eight months later Bise was promoted to resident engineer for two underground mines in eastern Ohio, all by the ripe old age of 22.

Bise was then offered a graduate assistantship from The Pennsylvania State University. Bise continues, “I had every intention of returning to Consol once I received my Master’s. I enjoyed the people and working for that company very much.” However, as he finished up, Penn State asked if he would consider going on for his PhD. “Although it wasn’t my intention, I did think I would enjoy teaching,” says Bise. Thus, when he was offered a position as an instructor he accepted, all at once beginning his career on the faculty of Penn State and earning his PhD in mining engineering.

After completion of his PhD in 1980, Bise stayed on at Penn State in the tenure track as an assistant professor. He climbed the ranks, chairing the Mining Engineering program, forming a new Industrial Health and Safety major, and in 2002 he was named the George H. and Anne B. Deike Chair of Mining Engineering, the position he held until joining WVU in September of 2006. Bise shows much enthusiasm about his opportunity to lead West Virginia University’s Department of Mining Engineering.

He says, “When I was contacted by WVU, I was excited for many reasons. This is a major university in the heart of a state where mining is so important. WVU sees much support from industry as well as alumni.” He continues, “WVU has all the right features if you are going to be a mining engineering educator. I truly feel a lot can be accomplished from this location.”

Bise goes on to say he envies the students for the opportunities afforded them while in school and upon their graduation. He says, “Because of the aging workforce there will be a tremendous turn-over of top management. Graduates will most likely hold down positions of responsibility they might not have been considered for until they were about 40.” This trend seems to encompass all fields: industry, government, and academia. Bise adds, “This is a crucial time to get people into our field to teach the next generation.” Thus one of Bise’s main goals is recruiting students into our program and retaining them through graduation.

ICG Exploration and Engineering Office Visited

2006 Mining Exploration & Valuation class at International Coal Group’s Hunter Ridge Coal Company’s office. Dr. Dan Alexander and Joe Andrews are fourth and fifth from right.

Charles Dunbar, PE, (BSME 1980) arranged a visit to the Exploration/Engineering offices of the International Coal Group’s (ICG) Hunter Ridge Coal Co. for Dr. Alexander’s Mining Exploration & Valuation class of junior students on December 6, 2006. ICG maintains a database of about 4,000 drill holes to support the operational and planning needs of their existing and future mines. Joe Andrews, ICG’s Senior Geologist for the NWV area, went through each step in planning, land work, permitting, drilling, logging, analyzing, and modeling the geologic and quality data. Joe emphasized that the roof and floor characteristics are the most important predictors of future productivity. The map shown in the photo is based on the number of clean tons per linear foot of continuous miner advance. This allows them to easily see where a normal section will likely be economic when they lay out a mine. Thanks to companies like ICG, the WVU Mining Engineering students are able to learn first hand how different expertise is applied to solve mining problems.

ICG Exploration and Engineering Office Visited

Calendar of Events

Feb 25-28 2007 SME Annual Meeting & Exhibit, Denver, CO.
April 1 Mineral Resources Awards Banquet, Morgantown, WV.
April 19 Poundstone Lecture, Mineral Resources Bldg, WVU, Morgantown, WV.
April 20 Spring Visiting Committee Meeting, Morgantown, WV.
May 12 138th WVU Commencement, Morgantown, WV.
July 31-August 2 26th International Conference on Ground Control in Mining, Morgantown, WV.
Oct 18-20 WVMI&SME-CAS the Greenbrier, Sulphur Springs, WV.
Oct 25-26 PCMIA&SME-Pittsburgh, Southpointe, PA.
Nov 15 Poundstone Lecture, Mining Engineering Dept., WVU, Morgantown, WV.
Nov 15-16 Fall Visiting Committee Meeting, Morgantown, WV.
My first official introduction to the West Virginia University School of Mines took place at a luncheon held in the dining room of the Mountainair Hotel in Mount Hope, WV, the spring of 1940. I was accompanied by my father, Charles E. Howard, who was Assistant Secretary of The New River Company, a producer of Sewell seam coal from deep mines in Fayette and Raleigh counties, West Virginia. Our two guests were Dr. C. Lawall, who at that time was serving as both director of the School of Mines and also as a teacher, and Professor G. R. Spindler. It was then that I decided to attend the School of Mines in the Fall of 1940 and after much, much work and study, and several military draft deferments, I graduated in January, 1943, during the middle of World War II.

Early remembrances of the School of Mines staff include the director, Dr. Lawall, later President of West Virginia University, and Professors G. R. Spindler, W. A. Staub and Charles T. Holland. Classrooms attended in those days included “Mechanical Hall” which served as headquarters for all the engineering departments, under the direction of Dean R. P. Davis, the “Chemistry Building” with Dr. A. R. Collett as head teacher, and last, but not least, “Woodburn Hall” (English classes). Over the next several years I became acquainted with professors and instructors in the College of Engineering and the Department of Chemistry, including, Dean R. P. Davis, Professors Carl and Harold Cather, H. W. ‘Hank’ Speiden, and Professor Boomsliter, all engineers, and Dr. Collett (chemistry), among several others. A few, but not all, of the many engineering students with whom I associated were: Bill Barnard, John Baugues, David Bayer, Arthur Belton, Bob Beury, Jack Caffrey, Lynn Cavendish, Steve Dasovich, John Draper, Bob Edele, Jesse Gravelly, James G. Hawes, Jon E. Kaites, Fred Leckie, Bob Maurer, Ennis A. Naeve, William H. Noone, John Pomykata, John Rudnicki, Warren D. Sharpenberg, G. H. Siems, Jr., John W. Stratton, Don Wiebe, David A. Zegeer, and many more.

During World War II, education at the University changed considerably. Classes ran continually and there were no summer vacations. This was in order to graduate as many and as quickly as possible, because they were needed in both industry and the armed forces. Warren Sharpenberg, Bill Bernard, and many others in advanced military (ROTC) were ‘called to the colors’ at an earlier date and, therefore, did not get to graduate with their class. In fact, in the School of Mines there were only two graduates in January of 1943 - Dave Zegeer and myself. I do remember hoping, before the war, to get a job, after graduating, in the engineering department of some good coal company, where it was rumored that the pay scale was the almost unbelievable $200 a month.

This all changed, however, when shortly before graduation, I was excited to receive a letter from the U.S. Dept. of the Navy advising me that, as a graduate engineer, I would be eligible for a commission as an ensign in the U.S. Naval Reserve. After graduation I, therefore, traveled to the local Naval Induction Station, passed the physical examination, and was commissioned as Ensign Thomas W. Howard, D. V. S. (Deck Volunteer Special). After attending, and passing, the Naval Induction School in Hollywood, Florida, I entered the US Navy as a combat officer, serving in the Pacific Theater as Assistant, and later as the Engineering Officer, aboard the USS LST 880. We steamed over the entire Pacific, with many, many scary days!

One of the good and funny remembrances I continue to hold of my naval service, was when I learned that a fellow engineer from Mount Hope, George H. “Sonny” Siems, Jr., an earlier graduate of the WVU Department of Civil Engineering, was serving with a “Seabee” unit on the island of Saipan. Later, when our ship chanced to land on Saipan to pick up some supplies, I took the opportunity to visit George, who with his group, was in charge of constructing large underground water reservoirs for the American troops stationed there. I learned of his whereabouts and traveled by jeep several miles to “Seabee” headquarters, where I asked to see him. It was obvious during this short visit that this “Seabee” unit was comprised of many rough-appearing construction workers. In a few minutes, George appeared-waving his hands and saying to me in a whisper: “For God’s sake, Tom, don’t call me Sonny!” I quickly understood why, because if his men ever heard his West Virginia nickname, he would continually be referred to as “Lieutenant Sonny” -to his chagrin. George has since passed away, but I still recall that “Sonny” day in Saipan.

After World War II, I returned to the School of Mines to obtain my MSEM, while also, at the request of Professor C. T. Holland, to be employed by the University as a School of Mines Instructor, teaching along with Professor Holland, the overflow of mining undergraduate students. He and I were for a period of time the entire faculty of the School of Mines, since Professional Spindler was on leave serving the government. Later, Don Bondurant and several others came aboard. During my time on the School of Mines staff, I developed a lasting friendship with Charles Holland. In 1948, I married Elizabeth Ann “Betty” Sibray of Grant Town, a daughter of a Pitt mining engineer, Mr. Donald L. Sibray. We lived on Beverly Avenue and after earning my MSEM, Betty and I left Morgantown to return to my home in Mount Hope, where I was employed by The New River Company.

“New River” at that time was under the direction of Mr. C. R. Bourland, President, and under his leadership, was one of the most progressive mining companies in southern West Virginia, mining the prized Sewell, Beckley, and Fire Creek seams. At “New River”, I rose through the ranks, beginning as a member of UMWA, including attending union meetings as a coal loader, only to later take over the duties as the “A” Shift Foreman on “7th Right, 16 West Mains” of “Summerlee Mine”, which was a shaft mine, operating in the gassy Sewell Seam that operated continuously from 1906 through 1958. During my time at Summerlee, The New River Company was both hand-loading coal into cars and/or onto shaker or chain line conveyors. Over the following years, “New River” progressed from hand-loading coal to more mechanized methods, included continuous miner means to produce coal. (See Howard, Page 5)
Faculty and students attended the joint meeting of SME Pittsburgh Section and PCMIA on October 26-27, 2006. Dr. Keith Heasley received the 2006 PCMIA Stephen McCann Educational Excellence Award. This award is given to individuals for exemplary contributions to minerals education. Morgan Sears and Patrick Pelley were also recognized at PCMIA/SME -Pittsburgh section with the Donald S. Kingery Student Award and the SME-Pittsburgh Grant Award, respectively.

Samantha J. Stahle and Lucas O’Neal took the first place prize of Carlson Software Mine Design Competition. The Award was presented by Carlson at the 2006 Annual Joint Meeting of West Virginia Coal Mining Institute (WVMI) and SME Central Appalachian Section on October 19-21, 2006 at the Greenbrier, White Sulfur Springs, WV. They were also the Silver Award winner of 2005 PCMIA/SME Student Design.

(Howard from, Page 4)

In the early 1950’s I joined the Engineering Department of The New River Company and was later promoted to Ventilation Engineer over all mines, ultimately becoming the company’s Chief Engineer. In 1961, due to a major change in management at The New River Company, I elected to form my own company, Thomas W. Howard, Inc., to provide engineering services to both local and international mining Companies.

Thomas W. Howard, Inc. grew to provide reserve studies and feasibility studies for various companies, such as Cannelton Industries and The New River Company for new shaft mines in the Beckley seam, as well as clientele all over the world, including India. In the earlier years, the company ‘set spads’ in a multitude of nearby coal mines and over the years Land companies and Estate Trusts also became clients. During the 1960's I also served on WV's Board of Registration for Professional Engineers.

In 1974, in addition to my duties at Howard, Inc., I accepted the position of General Manager, Beaver Coal Company, Ltd. “Beaver” is a Philadelphia-based land company owning some 40,000 acres of lands in and around Beckley, WV. I held the position of General Manager at “Beaver” for more than 20 years while concurrently running my engineering firm, Thomas W. Howard, Inc. Today I serve on the Board of Directors of Beaver Management Corporation, the General Partner of Beaver Coal Company, Ltd. My career in mining has seen many changes and I have personally watched production evolve from hand-loading to the most automated longwalls. I recall the first roof bolts being used by The New River Company when timber supports were gradually replaced.

Today, at nearly 85 years of age, I remain an active part of Thomas W. Howard, Inc., serving as Chief Financial Officer. Son Charles (BSEM, ‘83 and MS Mineral Economics ’86) is now President and manages the day to day activities. I come to the office daily to work in the same room where I held the position of Chief Engineer during my days with The New River Company. In fact, my family now owns the former General Office Building of The New River Company in Mount Hope. It remains full of interesting archives, historical documents, and memories. Any reader of this article is welcome to stop by to “take the grand tour” of the building and perhaps even visit with us!

Our business continues today, after some 46 years, with capable son Charles G. Howard, P.E., a graduate of WVU School of Mines, at the helm.
Robinson Run Mine Coal Preparation Plant and Material Handling Facilities Tour

Mining Engineering students and a faculty member toured Robinson Run Mine, Coal Preparation Plant and surface material handling system, CONSOL, near Shinston, WV, on October 25, 2006. After safety training and a brief explanation of material flow on the plant flowsheet, John Boyd, Plant Superintendent, and Steve Metzler, Senior Process Engineer, who designed the Coal Preparation Plant, led us on the plant tour. Leonard Roman, WVU mining engineer, guided us on 4 mile long overland conveyor belt system under construction. The Pittsburgh #8 seam coal from longwall mining section is transported via belt conveyor to a rotary breaker in the crushing plant for size reduction and liberation. Raw coal is stock in the silos and fed at 2500 tph rate to, or bypassing the plant. The plant feed goes through sizing, cleaning, and dewatering, and sends the product to a rail car loadout system and on to Shinston power plant. The plant consists of dense-medium vessel, dense medium cyclone, 2-stage water-only cyclones-spirals, and froth flotation cells cleaning circuits. The tour makes it possible for the students to familiarize themselves with the unit operations in the plant and material handling systems. The Department would like to thank Jimmy Brock, vice president in charge of Northern WV operations, for the permission to visit the facilities, and all the engineers involved in the arrangements and conducting the tour.

Underground Mine Tour at Century Mine, American Energy, OH

More than twenty mining engineering students, faculty, and visiting scholars participated in the American Energy Coal Mine trip. The Department chartered a WVU bus to transport the group to the mine site. The group arrived at Century Mine of American Energy Corporation, Belmont County, OH, on October 13, 2006. We were greeted by Rob Murray (BSMinE, ’00), Vice-President-Sales, Ryan Murray (BSMinE, ’02), Mine Superintendent, and Jim Turner (BSMinE, ’02), Mining Engineer. Rob and Ryan presented background on American Energy enterprise, and then provided the safety training. The group was then split in two to visit 600 ft deep underground operations. Both groups had the opportunity to visit continuous mining and long wall mining sections, and underground conveyor system. The Mining Engineering Department would like to express appreciation to American Energy for accommodating the mine visit.

Making a Gift to the MinE Department

Thinking of making a gift to benefit our Department in your will, living trust, IRA, or other manner? If so, the proper wording is very important to ensure that your gift works out the way you intended.

Have your attorney include a provision directed “to the West Virginia University Foundation, Inc. (i.d. #55-6017181) to benefit the Department of Mining Engineering in the College of Engineering and Mineral Resources.” Your gift provision can provide for the creation of an opportunity fund, a faculty development fund, a scholarship — whatever you choose. It will help us in an important way to further our educational, research and service mission.

If you would like further assistance with your gift plans, call Bob Bragg, CEMR at (304) 293-4821, or Chris Bise at (304) 293-7680 x3302.
Graduation Day
by Bryan Schwalm (BSMinE ’06)

Graduation day is the day I looked forward to and also feared. On the one side I am ready to start a new chapter in my life by entering into the working world and applying the knowledge I obtained from my years in the WVU Mining Engineering program; on the flip side, I will be leaving the life of school, the easy life so to speak. By easy, I mean getting up late, going to two or three classes, and then hanging out with friends for the rest of the day. I’m not naive enough to believe this is how it works in the real world! My time at WVU has been fantastic, especially since joining the mining engineering program at the end of my freshman year. I could not have asked for a better college experience. Going to class, doing homework, and studying were definitely a major part of my life while in the mining engineering program, but the end of the year projects will forever be stuck in my memory. Just about all of the mining engineering classes required some sort of end of the semester project. Completing those projects I learned the most about what was going on in class and about myself. The projects were a great way to put everything you learned together and show your ability to comprehend mining engineering. It also was a way to bond with other students as everyone lives in the Mine Design room the last two weeks of the semester!

Beyond the classroom, the Mining Engineering program introduced to me lifelong friends among my peers and teachers. I know that I can always call up a teacher or a fellow student in the working world for some advice and that is how I look at the mining program; a network of friends with a common interest that is forever growing. Thanks to all!

Visiting Scholar from Brazil
by André Zingano, PhD, Professor of UFRGS

I came from the city of Porto Alegre, capital of the Rio Grande do Sul State, southern state of Brazil. I am married to Cristina, and we have two kids, Henrique, 14, and Isabella, 11. I am a Professor in the Mining Engineering Department (DEMIN) of Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil. The Mining Engineering Program was funded 60 years ago at UFRGS, and presently has 120 students & 10 faculty. The DEMIN is very strong in geostatistics and mining planning, also in mineral processing. My research area is ground control in underground mining and tunneling. It is growing fast, because we have some projects with mining companies and road construction companies about rock mass characterization and excavation support projects.

The southern region of Brazil has 14 coal mines, four surface mines, and 10 underground mines. The underground mines are room-and-pillar mining methods. Therefore, ground control is the most important issue for mining planning and operation. Also, environmental problems are the other concern for the mining companies; mainly the environmental problem comes from preparation plant and tailing disposal, because the ROM coal in Brazil has 45% ash, on average.

Presently, I am a visiting scholar in the Mining Engineering Department of WVU, under the supervision of Dr. Syd Peng. The Mining Engineering group of WVU is very strong in ground control and underground coal mining and its great quality is being recognized worldwide. The Ground Control Conference is the most famous Conference in Ground Control, and all the famous researchers in ground control around the world have published papers in the proceedings. It is great honor for me to have papers published in this Conference.

I am working on many projects with the Ground Control Group. These projects are about mining subsidence, roof support, and rock mass characterization. It is very important to me to belong to this group because I am improving my knowledge about rock mechanics, and also I can make my contribution with what I already know about this.

Another important experience is the opportunity to visit underground coal mines that are applying longwall and room-and-pillar mining methods. The mine visits are important because I can gain field experience in exactly what I study in class and read in books, and also understand the behavior of the rock mass around the excavation.

Therefore, I can apply all this knowledge on the research project I brought from Brazil about coal mining in very deep conditions, more than 1640 feet (500 meters). This project is very important, because there are many coal resources under very large overburden thickness, and in the overburden there are some aquifers. Also, there is another project that will start in my University next year, about back filling mined out areas with tailing material from preparation plants, and from power plants. It is a very important project for environmental and ground control issues.

In conclusion, this period I will be here in WVU as a visiting scholar, working with Dr. Syd Peng is the best experience for me and will greatly improve my knowledge about rock mechanics. This experience will increase the quality of the researches about rock mechanics at my University in Brazil.
Alexander Beginning a NIOSH Career
by Dan Alexander (PhDMinE ’06)

As you read this my wife Anna and I will be on a 44 foot sailboat, cruising in the British Virgin Islands (BVI), where we are working on coastal cruising and bareboat chartering certifications. The photo was taken in November on Chesapeake Bay. We are hoping for warmer weather in the BVI. I have enjoyed the last six years in the Mining Engineering Dept. at WVU. I was able to help 35 students complete their senior mine design projects and in the process they earned 9 national awards. WVU has enhanced its reputation as one of the best undergraduate mining engineering programs in the US. The mining program enrollment is responding to the renewed interest in coal and the department recruiting efforts, so there are many good challenges ahead. Helping students transition from tentative freshman to confident seniors ready for new careers was most rewarding. I was able to respond to the renewed interest in coal and the department recruiting efforts, so there are many good challenges ahead. I was also able to complete my dissertation on “The Expected Value of Catastrophes in Underground Coal Mines: 1987-2001” and receive a PhD last May. My Visiting Assistant Professor position ended in December. I will begin a new career at NIOSH when we return from the BVI. I will then join the Pittsburgh Research Laboratory of NIOSH, as Manager of the Emergency Response and Rescue Research Program, in the Disaster Prevention and Response Branch. Best wishes in the coming year; and keep me on the mailing list!

Dr. Dan Alexander cruising on Chesapeake Bay.

Seniors Visit Beckley Crystal Mine

Charles Howard (BSEM ’83) arranged a mine visit for the seniors to Baylor Mining’s Beckley Crystal Mine near Beckley, WV on October 2, 2006. Beaver Coal Co. hosted the students overnight in their cabins and Thomas W. Howard, Inc. paid other expenses of the trip. These mine visits are essential to the mining engineering program at WVU. Classroom work must be supplemented by actual internships at active mines and mine visits.

Bob Worley, Superintendent - Owner of Baylor Mining, and Cecil Morgan, Riverside Energy, met us at the mine.

The geology of the mine is highly variable thicknesses and splits coming and going over short distances. The split ventilation method is used.

(See Crystal Mine, Page 11)

Dr. Yi Luo Accepts Appointment as Associate Professor

Dr. Yi Luo has accepted an appointment as a tenure track Associate Professor in the Dept. of Mining Engineering effective August, 2006. Dr. Yi Luo received his B.S. in Mining Engineering from Xian University of Science and Technology, China. His MS in Mining Engineering was obtained from University of Idaho, where he studied mine ventilation in deep and hot mines. He completed his PhDMinE in 1989 at West Virginia University. While working on projects of respirable dust control and mine subsidence. Dr. Yi Luo has years of teaching experiences as a research professor at WVU including, underground mining systems, mine ventilation, coal-bed methane recovery, as well as surface subsidence theory and engineering.

He also has taught underground mining system to the students at WVU Tech. Dr. Luo’s research includes characterization of coal seam using electromagnetic transmission; drill string radar and navigation system; and measurement and drill technology. He also has worked on longwall mine subsidence, engineering control of longwall machine noises; evaluation of mine fire extinguishment methods; and testing of seismic communication system.

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Three Consecutive R&D 100 Awards for Stolar Horizon, Inc. and Mining Engineering, WVU

For the third straight year, the Department of Mining Engineering research project in partnership with Stolar Horizon, Inc., of Raton, New Mexico, has received a R&D 100 Award from R&D Magazine. This year’s award was for the development of a Data Transmission System (DTS) used in the “real-time measurement while drilling” system. The radar sensor and navigating system of DTS gathers the information and sends the guidance command back to the drill string. This greatly increases the efficiency of the entire drilling operation compared to the current trial-and-error drilling technology. DTS also maps the geology of the rock and coal seam, as well as identifies the rock types of the mine roof and floor. A reliable DTS between the drill string and the surface control unit over long distances is the key to tapping the full potential of the new drilling technology.

The technology is now being tested underground.

WV Coal and Energy Research Bureau Focuses on Emergency Shelter/Chamber, Tracking and Communication Systems

Procedures for Evaluation of Emergency Shelter/Chamber for Approval
Pls: Dr. Felicia F. Peng, Associate Professor, and Dr. Keith A. Heasley, Associate Professor

This project is to develop and implement the appropriate protocols for evaluating and certifying that the emergency shelter/chambers, submitted to the West Virginia Office of Miners’ Health, Safety and Training (WVOMHST) for approval to meet the requirement of WV Law. The components to be evaluated are: 1) structure soundness and overpressure capability of the chamber; 2) chamber flash temperature and flame resistance; 3) O2 delivery system; 4) CO2 scrubbing system; 5) temperature and humidity control system; 6) entry/exit airlock air purging system and procedure; 7) human waste disposal method; 8) internal and external gas monitoring systems; 9) water, essential nutrient, and first aid supplies, and 10) inspection, maintenance, and replacement schedule, etc.

Seismic Location System
Pls: Dr. Yi Luo, Associate Professor, Dr. Keith A. Heasley, Associate Professor and Syd S. Peng, Charles E. Lawall Chair in Mining Engineering

In serious mine accidents, the trapped miners are trained to periodically pound the mine roof with tools available to them as an emergency procedure. The deployed seismic location system on the surface will listen to such signals and try to pinpoint their location. This project is to develop the technical specifications for the seismic location systems to be used in the state and to understand the applicability and limitations of these systems. The research group joined by the seismic equipment vendors demonstrated their equipment and software capabilities for locating trapped miners at two different test sites. Also, the ways to enhance the hardware and software capabilities will be studied in the future. The researchers sincerely thank MEPCO and Peabody for providing sites and logistics for the tests conducted. Special thanks go to Engineering Seismology Group and Weir-Jones Group, both from Canada, for providing seismic equipment, and personnel for the tests. Also, Hilti USA has provided their special mine tools and technical assistance for testing their tools as generators of seismic signals.

Evaluation of Communication System
Pl: A. Wahab Khair, Professor

The objective of this project is to evaluate the emergency communication systems potential to be used in underground coal mines. The following existing systems have been specifically targeted for evaluations: i) UHF radio sets, ii) leaky feeder system, and iii) wireless communication. Through examination of existing systems the following conditions are to be observed: 1) to be effective mining conditions must be considered. 2) surface system must be further developed for underground mine use; 3) no single system is sufficient for a large mine; 4) the integration of different technologies is required; 5) the systems must be tested under the worst conditions such as no power supply, mine fire, etc.; 6) LAMPS system which has been extensively used in Australia, should be modified and transformed to be used in US.
Celebrating 25 Years of the International Conference on Ground Control in Mining

In August 2006, Dr. Syd Peng, Chair of Mining Engineering, and C. T. Holland Professor, West Virginia University, and Chair of ICGCM Organizing Committee, and the Conference celebrated and commemorated its 25th anniversary at the Lakeview Scantic Reserve in Morgantown, WV. The keynote speaker was David G. Dye, Acting Assistant Secretary of Labor, Mine Safety and Health Administration.

When Mr. Dye learned that there are many mine operators at this Conference, he extended a special welcome to them. He said, “It is with people like you who care, who insist on learning the most up-to-date safety and health information, who actively participate in safety and health decisions in your mines—that we can work together to reduce injuries, illnesses and fatalities in our nation’s mines.”

In Summer of 1981, the first International Conference Ground Control in Mining (ICGCM) was held in Morgantown, WV to provide a forum for academia, researchers, mine operators, support service providers, equipment manufacturers, and government regulators to promote and advance the state-of-art in ground control in mining. All but three conferences in the past 25 years have been held in Morgantown. More than 5,000 attendees from all mining/mineral producing states in the US and 30 foreign countries have participated in the Conferences since established in 1981. The conference proceedings exceeded more than 1000 papers throughout the history of the Conference. They have boldly dealt with and promoted many innovative ideas from legal, exploration to surface and underground mining. They have further introduced many new ground control technologies to the industry that have made mining both safer and more productive. Some of which have become industry standards today.

Aside from quality papers, presentations and publications, the Conference also provides a meeting place for the exchange of information related to the field of ground control, concept discussion and debates, opportunity for transaction negotiation, and personal and professional relationship establishment and enhancement.

At the banquet, attendance awards for the attendees with 10, 10-14, 15-19 and more than 20 years were presented in front of more than 300 attendees this year. The Conference sponsors were also recognized for their support of various events. The companies and agencies sponsoring the Conference are: Agapito Associates, Inc., CONSOL Energy, Excel Mining Systems, Fasloc, Inc., J. H. Fletcher & Co., Micon, Inc., Hilti Corporation, Mine Safety and Health Administration, Minova USA, Inc., NIOSH (formerly USBM), West Virginia Coal Association, West Virginia University. (See Appreciation at ICGCM website: http://www.cemr.wvu.edu/~icgcm/)

Dr. Syd Peng’s first book “Longwall Mining” after he stepped down from Department Chair last September is now available. Place the order at:
http://www2.cemr.wvu.edu/~speng.
Or, call (304) 293-7680 X3301.
WVU SME Student Chapter Won 2006 SME GEM Award


WVU SMESC Hosted “Minerals for Kids” Booth at Mont Chateau

For the fifth year officers and members of West Virginia University’s SME student chapter staffed their “Minerals for Kids” booth at the 15th Annual Gem, Mineral, and Fossil show on Sept. 23-24, 2006. WVU Mining Engineering major Ryan Critchfield and John Cvechko, and grad student Brijes Mishra, under the guidance of Dr. Dan Alexander, coordinated this year’s booth. 30 students and faculty participated in bringing minerals to kids.

The booth teaches children and their families about ten different minerals used daily, often without realizing it. There is a station for each mineral at which a student explains where the mineral comes from and what it is used for using props, such as iron, cereal, soap, toothpaste, kitty litter, and chewing gum to show common items that are made from minerals. John Cvechko says, “The visitors were very interested in the display which matched the minerals to the props. They did not realize there were so many uses for minerals in our daily lives. We even had Channel 12 TV interview us this year for the evening news.” Gaetano Iannacchione adds, “The little kids make faces when we tell them there is limestone in chewing gum and toothpaste.”

For our West Virginia University SME Student Chapter members this event is a great way to provide a community service. Morgan Sears, WVU SMESC president says, “The kids and their parents don’t know about the mining industry. We want to explain to them where common things come from.” Children were given an information bag filled with pencils, stickers, and booklets as well as their own mineral kit to take home. The show was held at the WV Geological Center, Mont Chateau, Cheat Lake, WV. Society of Mining, Metallurgy & Exploration, Pittsburgh and Central Appalachian Sections supplied the mineral kits.

Children have fun at “Mineral for Kids” Booth, Mont Chateau, Morgantown, WV.
Dear Alumni and Friends:

As I prepare my first Chair’s Message to you, I can’t begin to tell you how excited I am to be at WVU and to be working with all of you as we further enhance the quality and visibility of this respected academic program. During my first months on the job, I have been busy learning the College’s and University’s administrative policies and procedures, while re-establishing old relationships and establishing new ones. However, I would like to share with you several observations which I find significant and of which you should be justifiably proud.

At the outset, I would like to express my sincere appreciation to members of the Department’s faculty and staff in making my transition to WVU so smooth. Although I have known several of these individuals for many years, there is always some concern when one leaves one place of employment for another. From my perspective, the support shown to me by everyone has been better than I could have imagined. I also would like to acknowledge Syd Peng’s leadership for nearly 30 years. Further, the advice and support provided to me by Dean Gene Cilento, the College administration and staff, and other College department chairs has been greatly appreciated.

Next, I want you to know how impressed I am with our students. We have approximately 60 undergraduate and 20 graduate students. In my position as Department Chair, I currently advise all of the undergraduates, so I am trying my best to get to know everyone on an academic, as well as a personal, basis. Even though one of my goals is to further increase the number of students we educate, I am glad that we have a quality student body that will set a positive example for future students, and that will be a source of pride for our alumni and friends.

I recently had to prepare the Board of Governor’s Reports on our B.S., M.S., and Ph.D. programs. Writing these assessment reports provided me with an opportunity to evaluate the quality of our academic programs. Again, I am very pleased with the results of my review, and I look forward to building upon this foundation. Also, the awards and recognitions received by our faculty members, as described in this edition of “Black Diamonds,” further underscore the quality and commitment of the Department of Mining Engineering to teaching, research, and service.

I look forward to working with each and every one of you in the coming years as the Department of Mining Engineering continues to address the state, regional, and national challenges to the energy and minerals industries.

Editors: Faculty and staff
Department of Mining Engineering, WVU
(304) 293-7680
Everything starts with mining!

WE’RE ON THE WEB!
http://www.mine.cemr.wvu.edu/

Chair’s Message

“If it can’t be grown, it must be mined.”